

WHAT IS CLAIMED IS:

1. A device for facilitating flow fluid between a first opening formed in an anatomical conduit and a second opening formed in an anatomical conduit, said device comprising:

5 at least one proximal annular member and at least one distal annular member, each of said annular members having a radially compact configuration and a radially expanded configuration;

10 at least one strut member connected to and extending between said proximal and distal annular members, said at least one strut member having a pre-expansion configuration and a post-expansion configuration;

said device being initially transluminally deliverable with its annular members in their radially collapsed configurations and said at least one strut member is in its pre-expansion configuration; and,

15 said device being thereafter implantable with its annular members are in their radially expanded configurations and said at least one strut member is in its post-expansion configuration.

2. The device of Claim 1 wherein the proximal and distal annular members are coaxially positioned during transluminal delivery of the device.

20 3. The device of Claim 1 wherein the proximal and distal annular members have different longitudinal axes after the device has been implanted.

25 4. The device of Claim 1 wherein said at least one strut member comprises a plurality of strut members.

5. The device of Claim 2 having 4 to 8 strut members.

6. The device of Claim 2 wherein said strut members are spaced apart from each other

and disposed about a central axis when the device is in its implantated, such that a hollow channel is defined within said strut members.

7. The device of Claim 1 wherein said at least one strut member is formed of resilient material such that it remains in its pre-expansion configuration when radially constrained, but will assume its post-expansion configuration when radially unconstrained.

8. The device of Claim 7 wherein said resilient material is selected from the group of resilient materials consisting of:

spring metal;
a resilient polymer; and,
a shape memory alloy.

9. The device of Claim 1 wherein said at least one strut member(s) is/ are formed of malleable material .

10. The device of Claim 10 wherein said malleable material is selected from the group of malleable materials consisting of:

plastically deformable metal; and,
plastically deformable polymer.

12. A system comprising the device of claim 10 in combination with:
a pressure-exerting member positioned within said device and useable to cause the annular members to radially expand and the at least one strut member to deform from its pre-expansion configuration to its post-expansion configuration.

13. The system of Claim 12 wherein said pressure-exerting device is a balloon which has a curved configuration when inflated to deform said strut members to a curvilinear post-expansion configurations.

14. The device of Claim 1 wherein said annular members are self-expanding.

15. The device of Claim 10 wherein said self-expanding annular members are formed of resilient material and are biased to their radially expanded configurations.

16. The device of Claim 15 wherein said resilient material is selected from the group consisting of:

spring metal;
resilient polymer; and,
shape memory alloy.

17. The device of Claim 1 wherein said annular members are pressure-expandable.

18. The device of Claim 17 wherein said pressure-expandable annular members are formed of malleable material capable of being plastically deformed from their radially compact configurations to their radially expanded configurations.

19. The device of Claim 18 wherein said malleable material is selected from the group of malleable materials consisting of:

plastically deformable metal; and
plastically deformable polymer.

11. The device of Claim 1 wherein said at least one strut member has first and second ends, said first and second ends being fused to said first and distal annular members.

12. The device of Claim 16 wherein said at least one strut member has first and second ends which are connected to said first and distal annular members by flexible connections.

13. The device of Claim 13 wherein loops are formed on the first and second ends of said at least one strut member, and portions of said first and distal annular members are captured within said loops, to thereby form said flexible connections between the ends of said at least one strut member and first and distal annular members.

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15. The device of Claim 1 wherein the curvilinear post-expansion configuration of said at least one strut member is a serpentine configuration.

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16. The device of Claim 1 wherein the curvilinear post-expansion configuration of said at least one strut member is a generally U shaped configuration.

17. The device of Claim 2 further comprising:
a plurality of transverse strut connector members formed between adjacent ones of said strut members.

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18. The device of Claim 2 wherein outer ones of said strut members have a longer radius of curvature than inner ones of said strut members when the device is in its second condition, and wherein said outer ones of said strut members are longer in length than said inner ones of said strut members, said outer ones of said strut members having at least one wave formed therein while the device is in its first condition.

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19. The device of Claim 1 further comprising a pliable covering formed on at least a portion of said device.

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20. The device of Claim 19 wherein said pliable covering is a generally cylindrical covering formed about said device, said cover defining a hollow lumen which extends longitudinally through the device.

21. The device of Claim 19 wherein at least one flow-through opening is formed in said

pliable covering.

22. The device of Claim 19 wherein said pliable covering is formed transversely across the device to block flow of body fluid.

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23. The device of Claim 1 wherein said at least one strut member has a post-expansion configuration which is multicurvate, such that said proximal and distal annular members may be positioned at spaced-apart locations in the same anatomical conduit and said at least one strut member may extend through said first and second openings and through a segment of an adjacent second anatomical conduit.

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24. The device of Claim 1 wherein at least some of the proximal and distal annular members are of differing size when in their radially expanded configurations.

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25. A device for facilitating fluid flow between the lumen of a first anatomical conduit which has a first opening formed therein, and the lumen of a second anatomical conduit which has a second opening formed therein, said device comprising:

at least one proximal annular member, at least one distal annular member and at least one medial annular member, each of said annular members having a radially compact configuration and a radially expanded configuration;

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at least one first strut member connected to and extending between said proximal and medial and medial annular members, said at least one first strut member having a pre-expansion configuration and a post-expansion configuration;

at least one second strut member connected to and extending between said medial and distal annular members, said at least one second strut member having a pre-expansion configuration and a post-expansion configuration;

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said device being initially transluminally deliverable with its annular members in their radially collapsed configurations and said first and second strut members in their pre-expansion configurations; and,

said device being thereafter implantable with its annular members in their radially expanded configurations and its first and second strut members in their post-expansion configurations.

26. The device of Claim 25 wherein the proximal, distal and medial annular members are coaxially positioned during transluminal delivery of the device.

27. The device of Claim 26 wherein the proximal and distal annular members have different longitudinal axes after the device has been implanted.

28. The device of Claim 25 wherein said at least one first and second strut members comprise a plurality of first and second strut members.

29. The device of Claim 28 having 4 to 8 first strut members and 4-8 second strut members.

30. The device of Claim 25 wherein adjacent ones of said first and second strut members are spaced apart from each other and disposed about a central axis when the device is implanted, such that a hollow channel is defined within said strut members.

31. The device of Claim 25 wherein said first and second strut members are formed of resilient material such that they remain in their pre-expansion configurations when radially constrained, but will assume their post-expansion configurations when radially unconstrained.

32. The device of Claim 31 wherein said resilient material is selected from the group of resilient materials consisting of:

spring metal;
a resilient polymer; and,
a shape memory alloy.

33. The device of Claim 25 wherein said first and second strut members are formed of malleable material.

34. The device of Claim 33 wherein said malleable material is selected from the group of malleable materials consisting of:

plastically deformable metal; and,
plastically deformable polymer.

35. The device of Claim 25 wherein at least some of said proximal, distal and medial annular members are of different size when in their radially expanded configurations.

36. A system comprising the device of claim 33 in combination with:

a pressure-exerting member positioned within said device and useable to cause the device to deform and become implanted such that its annular members are in their radially expanded configurations and its first and second strut members in their post-expansion configurations.

37. The system of Claim 36 wherein said pressure-exerting device is a balloon which has a curved configuration when inflated to deform said first and second strut members to their curved post-expansion configurations.

38. The device of Claim 25 wherein said annular members are self-expanding.

39. The device of Claim 38 wherein said self-expanding annular members are formed of resilient material and are biased to their radially expanded configurations.

40. The device of Claim 39 wherein said resilient material is selected from the group consisting of:

spring metal;
resilient polymer; and,
shape memory alloy.

41. The device of Claim 25 wherein said annular members are pressure-expandable.

42. The device of Claim 41 wherein said pressure-expandable annular members are formed of malleable material capable of being plastically deformed from their radially compact configurations to their radially expanded configurations.

43. The device of Claim 42 wherein said malleable material is selected from the group of malleable materials consisting of:

plastically deformable metal; and
plastically deformable polymer.

44. The device of Claim 25 wherein said first and second strut members have first and second ends, the first and second ends of said first strut members being fused to said proximal and medial annular members and the first and second ends of said second strut members being fused to said medial and distal annular members.

45. The device of Claim 44 wherein said first and second strut members have first and second ends, the first and second ends of said first strut members are connected to said proximal and medial annular members by flexible connections and the first and second ends of said second strut members are connected to said medial and distal annular members by flexible connections.

46. The device of Claim 45 wherein loops are formed on the first and second ends of said first and second strut members, and portions of said annular members are captured within said loops, to thereby form said flexible connections between the ends of said strut members and said annular members.

47. The device of Claim 25 wherein the post-expansion configuration of said at least one first strut member is curved in a first direction and the post-expansion configuration of said at least one second strut member is curved in a second direction, such that said first and second strut members combine to provide a serpentine configuration.

48. The device of Claim 25 further comprising:
a plurality of transverse strut connector members formed between adjacent ones of said strut members.

49. The device of Claim 25 wherein outer ones of said strut members have a longer radius of curvature than inner ones of said strut members when the device is implanted, and wherein said outer ones of said strut members are longer in length than said inner ones of said strut members, said outer ones of said strut members having at least one wave formed therein while in their pre-expansion configurations.

50. The device of Claim 25 further comprising a pliable covering formed on at least a portion of said device.

51. The device of Claim 50 wherein said pliable covering is a generally cylindrical covering formed about said device, said cover defining a hollow lumen which extends longitudinally through the device.

52. The device of Claim 50 wherein at least one flow-through opening is formed in said pliable covering.

53. The device of Claim 50 wherein said pliable covering is formed transversely across the device to block flow of body fluid.

5 54. The device of Claim 25 wherein said first and second strut members combine to have a post-expansion configuration which is multicurvate, such that said proximal and distal annular members may be positioned at spaced-apart locations in the same anatomical conduit and said strut member may extend through said first and second openings and into a segment of an adjacent second anatomical conduit with said medial annular member being located within said secon anatomical
10 conduit.